ISBN: 978-972-8939-88-5 © 2013 IADIS

EDUCATIONAL COMPANY AND E-LEARNING

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ABSTRACT

This article deals with nowadays urgent issue. It tries to find a way how to achieve as highest probability of current students employment as possible, especially in the age of business crises. It comes from actual industry practice requirements on hiring employees. There is briefly, considering limited range of article, described innovative education concept "Educational company", which implies elements of problem based learning with focus on e-learning application and acquirement of soft skills by students. This article shows structure of mentioned concept. There are mentioned differences between traditional and developed education concept. A contribution describes current experiences of all participants, concept benefits and also problems, which this concept faces. There are presented further steps connected with concept development.
The experience of concept versatility are very good and show it´s high potential. A concept is motivating not only for students but also for the teachers, which are acquiring the new abilities and are getting new knowledge. Mostly it is going about more effective form of education with clear results not only in the form of created products but mainly in good student versatility in practice.

KEYWORDS

E-learning, „Educational Company", silky abilities, student, teacher, product.

1. INTRODUCTION

1.1 The Theoretical Outlets

Education at all types of schools should go through regular innovations. The reason is achieving it's quality results. Schools are operating in a very competitive environment like all other organizations. In this, it is necessary to help graduated students in the future versatility in the globalized labor-market. The process of an education includes important factors such as: teacher, student, subject or specialization, etc. Each student has his way of learning. It includes perception and processing of knowledge (Kohoutek, 2008). During an education the method of student learning affects the teacher´s teaching (Průcha, 2009).

The requirements for specialization by students are rising according to (Smith, 2005). On the other hand, companies require from the schools greater connection with practice and mastery of soft skills as well. Also these requirements decide about student versatility of labor market (Meyers, 2007). Therefore, also in the Czech Republic promote educational systems of various types. Except from traditional teaching "in front of blackboard" are discussed other learning systems, above all e-learning and Process Based Learning.

E-learning is a form of education that uses informational technologies to inform the students, to provide a communication between student and teacher or more students together and for the distribution of learning materials and presentation of the theory and also the management of education (Dostál, 2008). The e-learning materials are often created in multimedia forms (see, e.g. Šimon and Edl, 2011; Edl, 2012). Implementation of e-learning takes place through the Learning Management System. Therefore, the smart learning systems have a three program modules – teachers (it includes a specifics of a teaching materials and theory), student (it includes a specifics of a concrete student), and tutor (it includes teaching strategies) according (Brdička, 2004). Process Based Learning is the education concept of larger and longer-term issues that requires the active exploration by students. Compared to the traditional education this concept is less structured. However, students must work together, organize their work and lead to the desired result (Brownell et al., 2004).

To the development of these mentioned methods in terms of empirical research would like to contribute the authors of this article as well.

1.2 The Practical Outlets

Unrelenting market requirements and tough competition are reflected in the personnel area of manufacturing organizations. Companies choose their employees with not only their professional knowledge in the given field (such as: the construction machinery or preparations, the technologies of plastics processing and mold manufacturing, etc.) and language training. Leading organizations are beginning to realize the importance of soft skills.

Industry according the author (Manlig, 2010) with particular emphasis on:

- the comprehensive interdisciplinary knowledge,
- the processing thinking,
- the systematic approach,
- the ability to work in the team,
- the practical experience in the branch.

In addition in the present, organizations are required from the workers, according to available job offers: interdisciplinary collaboration, time management, communication skills, independence, creativity, accuracy, reliability, ability to work with legislation and internal business documents. Workers must be able to control a variety of information technologies (software for various fields/branches). They are accessing the capabilities to introduce a modern technologies and orientation in various tools of management.

Most companies already aren´t looking for only the specialists (exclusive experts in the given area), but also interdisciplinary professionals who ***are able to solve business ties and problematic tasks much more complexly*** - they have the procedural and holistic thinking. Therefore technically oriented engineers with the comprehensive knowledge (i.e. technically oriented multi-professional worker who knows the business processes and the ties between them) find out the versatility in the present time.

2. IDEA OF EDUCATIONAL CONCEPT „EDUCATIONAL COMPANY“

The idea of educational concept of "Educational Company" based on the mentioned requirements of industrial practice. It introduces the elements of problem-oriented education and e-learning to the education, as are presented in detail in the text above. To date, there is a significant gap between business requirements for recruitments and knowledge taught in schools of all types in the country. The presented concept is trying to close this gap.

The concept of "Educational Company" connects the selected objects into an unified education system by complex project. In this project, the students solve the problems related to the design of batch production. It proceeds from the initial idea and a introductory marketing study, over the development of the product, to the design of a production in the concrete shop floor conditions of the home department, as is illustrated in Figure 1.

Figure 1. Schematic concept of „Educational Company“

In addition to getting the expertly knowledge the students learn to work in a team. They acquire the current and newly developed company ties. They learn to work considerately of others' work. Quality permeates of the all performed activities. Above solved problematic, the people discuss in personal contact and through information technology as well, and not only in limited time of teaching. On the other hand, must acquire soft skills. This is connected with the deliberate application of information technologies and the involvement of "common sense" and humanity, which is in the some areas currently being lost. The concept is trying to balance the aspects of the technology world and emphasis on grasping of the human factor in modern business.

The concept of "Educational Company" with its structure also builds on the idea of the process, as is currently enforced in quality control. The output of one object is the input to another object (e.g. design of the technology for specific departmental conditions in the study subject CAD / CAM (Computer Aided Design / Computer Aided Manufacturing) is the output at the same time it is the input for the design of production process in the study subject Design of the production systems). Here is the aspiration to make students working on the project very similar to real production conditions. In this context, regular consultations with industrial companies in the area are utilized. Even there is an aspiration to introduce partial cooperation in the "sharp" business problems of related organizations. This places big demands on all involved partners.

For a closer approximation in the following table (Table 1) are shown the main differences between the innovative concept of "Educational Company" and the traditional education of "In front of blackboard", which is very common not only in this country.

Table 1. The comparing of "Educational Company" with "In front of blackboard"

Activity	**Traditional education „In front of blackboard“**	**„Educational Company“**
Course interdependence	Low	Aspiration for the biggest connect object
Task solving	Tasks are solved separately in each course	Complex project – solving task from the perspective of different profession
Types of projects	Given by nature of the project – from individual to team projects	Team project with emphasis on project management principles
Type of task	Mostly model situations	Solution design for specific workshop conditions
Pedagogues' role during project solving	Superior behaviour and task control	Usually project head manager (sponsor), can behave also as a coach
Student motivation	Depends on the type of task/project low till high	High
Demand placed on teacher to prepare course	Low till medium	High
Use of information technologies	Low till medium	Medium till high
Use of teaching aid materials	Small	High, rich production
Requirements of course	Low	High, continually
Soft skills learning	Unnoticeable	Rich

3. CONCLUSION

Past experience with the introduction of the concept of "Educational Company", both from the teachers and the positive response of graduates and other professionals from the industry, demonstrate the considerable potential of this approach to education. An unique connection of normal professional knowledge versatility, information technologies and soft skills, as well as the creation of additional knowledge, are preparing students for the real situation not only in domestic organizations.

In addition to professional knowledge is highlighting in particular following:

- scope and knowledge of corporate ties,
- easier integration of graduates into business processes.

Finally, there is outlined next development of described concepts:

- creating of e-learning support for particulars modules of "Educational Company" concept,
- the expansion of an existing example of the design production process as well as learning example for complex design of a new production machine concept with regard to both technical and technological capabilities, as well as organizational requirements,
- currently we are discussing about the possibilities of linking education between some subjects and faculties.

The aim of the cooperation of the Faculty of Mechanical Engineering with the Faculty of Economics is bigger interconnection of technical aspects of the project with economic aspects.

Significant involvement of the other faculties still alludes to well-established ways of education, which would be "very difficult to change". Inter-faculty cooperation is therefore solved directly with personal contact (staff) across the university.

Application of the "Educational Company" concept requires a good teachers and also experts in given fields. Not only knowledge is needed but also technical support and finances. In this way, the education is related especially with necessary willingness and the enthusiasm of the teachers. This is the motor of this difficult but interesting project.

ACKNOWLEDGEMENT

This article has been written as part of the "EduCom – Innovation of study programmes with regard to the requirements and needs of industrial practice through the introduction of the "Educational company" innovative educational system, registration number CZ.1.07/2.2.00/15.0089.The project is jointly financed by the European Social Fund and by the national budget of the Czech Republic.

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